

Date 17 August 1966

KSC APOLLO PROGRAM DIRECTIVE NO. 5

TO : Distribution

FROM: [Signature]
Apollo Program Manager

SUBJECT: Policy for Reviewing and Approving the Incorporation of Program Approved Hardware and Software Changes in the AS-202 Space Vehicle and Support Equipment

I. PURPOSE

To establish a post-Flight Readiness Test Approval Procedure for AS-202 Space Vehicle and support equipment hardware and software changes prior to start of incorporation or use of the change. This directive is necessary to assure that non-essential changes are not made to flight hardware and selected support equipment after the FRT and that mission critical changes are properly reviewed and coordinated before the change is initiated and thoroughly verified after the change is installed. It is not intended that this procedure change or interfere with normal review and approval of hardware and software changes by the design cognizant program office. This procedure is in addition to and does not replace normal configuration management procedures such as FEC's (Field Engineering Changes).

II. SCOPE

This directive is applicable to all KSC and contractor organizations involved with the checkout and launch of AS-202 space vehicle and applies to:

- A. Any hardware change in space vehicle, LC-34 functional ESE/GSE, MSOB ACE control and computer rooms.
- B. Any change in RCA 110A programs, the launch vehicle flight computer program or the ACE computer program.

The above includes those changes which may have been approved previously for installation prior to the FRT, but work has

not yet begun in the case of launch vehicle hardware or not scheduled in the case of spacecraft hardware. This is to cover all engineering paper which would result in a change to the baseline configuration of the hardware/software involved, but does not include the work normally scheduled by an engineering order such as the installation of ordnance. This directive does not apply to a change of a faulty component where a like unit is reinstalled.

III. EFFECTIVITY

This directive becomes effective immediately upon completion of the Flight Readiness Test.

IV. PROCEDURE

The type of change as described above will be approved by the Director of Launch Operations or his designee and the KSC Program Manager or his designee. After approval by DLO, the change documentation will be forwarded to the Saturn Systems Office for launch vehicle changes and the Apollo Spacecraft Office for Spacecraft Changes. These offices will be responsible for obtaining approval of the KSC Program Manager.

The change documentation, as forwarded to the KSC Program Manager, must contain as a minimum the following information:

- A. Title and Identification of Change--Include the title of the change and its precise identification. The title or name of the change should consist of a few words which identify it for ease of communication. An engineering change order, an engineering order number, a modification package number, field engineering change number or other appropriate identification is to be included which will precisely identify the change and be consistent with its identification in configuration control records.
- B. Description of Change--Provide a short description to identify the specific hardware or software that will be physically changed.
- C. Reason for Change--Indicate the purpose of the change, such as make work, safety, reliability, correction of a known design problem, correction of a qualification test failure, etc.
- D. Affected by Change--Identify all systems, software and procedures affected by the change.

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- E. Implementation Data--Schedule impact by calendar days and estimate of total manhours required.
- F. Testing Required to Validate Change--Subsequent to its incorporation, define the specific tests that will be conducted prior to liftoff to prove that the change works properly after it is incorporated. Reference should be made wherever possible to specific written test procedures that will be used to verify satisfactory operation subsequent to completion of change. If proper operation will be verified several times in the course of normal pad testing, a list of the tests should be included.

TRANSMITTAL SHEET

TO: STDL-D

DATE
Jan. 6, 1972

MATERIAL TRANSMITTED

KSC Apollo Program Directive No. 5 dated August 17, 1966, Subject: Policy for Reviewing and Approving Incorporation of Program Approved Hardware and Software Changes in the AS-202 Space Vehicle and Support Equipment.

KSC Apollo Program Directive No. 8 dated March 3, 1963, Subject: Action Assignments Relative to AS-204 Accident.

The objectives of these directives have been accomplished, and they are therefore rescinded.

For *William H. Rock*
Robert C. Hock
Manager, Apollo-Skylab Programs

FILING INSTRUCTIONS